AMENDMENTS TO THE CLAIMS

Please add new Claims 32-36. Please cancel Claims 14 and 23-31.

1. (previously presented) A method for recombinantly producing functional ataxia-telangiectasia (ATM) protein, comprising:

providing a viral vector comprising a cDNA encoding the ATM protein operably linked to a promoter;

infecting ATM deficient mammalian L3 cells with said viral vector, wherein said mammalian L3 cells are thereby made to produce functional ATM protein; and

isolating said functional ATM protein produced by said mammalian L3 cells.

2. (previously presented) The method of Claim 1, wherein said viral vector comprising a cDNA encoding the ATM protein operably linked to a promoter is a vaccinia viral vector.

3. (cancelled)

4. (cancelled)

5. (original) The method of Claim 1, wherein said promoter is a synthetic early/late viral promoter.

6. (cancelled)

7. (cancelled)

8. (cancelled)

9. (cancelled)

10. (previously presented) The method of Claim 1, further wherein said ATM-deficient mammalian L3 cells producing said functional ATM protein exhibit regain of ATM function.

11. (original) The method of Claim 1 wherein isolating said functional ATM protein comprises binding an anti-ATM antibody to said ATM protein.

12. (previously presented) The method of Claim 1, where said cDNA encoding the ATM protein is modified to comprise a FLAG epitope.

13. (original) The method of Claim 12, wherein isolating said functional ATM protein comprises binding an antibody specific for the FLAG epitope to said ATM protein.

14. (cancelled)

15. (original) The method of Claim 1, further wherein said functional ATM protein is capable of phosphorylating ATM substrates.

16. (original) The method of Claim 15, wherein said substrates comprise p53 and PHAS-1.

17. (previously presented) A method for recombinantly producing functional ataxia-telangiectasia (ATM) protein, comprising:

providing a vaccinia viral vector comprising a cDNA encoding the ATM protein operably linked to a promoter;

infecting mammalian cells with said vaccinia viral vector, wherein said mammalian cells produce functional ATM protein; and

isolating said functional ATM protein produced by said mammalian cells by binding an anti-ATM antibody to the ATM protein;

wherein the yield of functional ATM protein is at least 2 μg substantially purified ATM protein per 300 grams fresh weight of mammalian cells.

18. (previously presented) The method of Claim 17, wherein said the yield of functional ATM protein is greater than 5 μg substantially purified ATM protein per 300 grams fresh weight of mammalian cells.

19. (original) The method of Claim 17, wherein said mammalian cells are human cells.

20. (cancelled)

21. (previously presented) The method of Claim 17, where said cDNA encoding the ATM protein is modified to comprise a FLAG epitope.

22. (cancelled)

23. (cancelled)

24. (cancelled)

25. (cancelled)

26. (cancelled)

27. (cancelled)

28. (cancelled)

29. (cancelled)

30. (cancelled)

31. (cancelled)

32. (new) The method of Claim 21, wherein isolating said functional ATM protein comprises binding an antibody specific for the FLAG epitope to said ATM protein.

33. (new) The method of Claim 17 wherein said promoter is an early/late promoter.

34. (new) The method of Claim 17 wherein said mammalian cells are HeLa cells.

35. (new) The method of Claim 17 wherein said mammalian cells are lymphoblastoid cells.

36. (new) The method of Claim 35 wherein said lymphoblastoid cells are L3 cells.